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BS News May/June

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(2014) "BS News May/June," *Building Services News*: Vol. 53: Iss. 3, Article 1.
Available at: <https://arrow.tudublin.ie/bsn/vol53/iss3/1>

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Building Services_{news}

End in
sight for
fossil
fuels?



■ KNX Connects
Building Services



■ Dermot Byrne
– IRI Awards



■ Building Regs
– Your Obligations



■ Climote Rapid
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Opinion

APHCI & CER – remember, you're on the same side!

The recent protest by APHCI members outside the CER headquarters in Dublin served to highlight, yet again, the lack of genuine communication between the two bodies. They have had their differences in the past but this is the first time such a demonstration has taken place on the CER's doorstep (see page 2).

The contentious issue at the centre of the current dispute is the introduction of the CER's new mandatory training programme. It is not that APHCI does not want training, or even mandatory training, but it disagrees with the method of delivery of that training programme.

For its part CER has recently demonstrated a new-found determination to prosecute non-registered gas installers (see pages 4 and 28). This is something APHCI has been lobbying for for years.

So, while on the face of it APHCI and CER seem poles apart, the reality is that they both have the same objectives. The sooner this is realised and some honest and open dialogue is engaged in, the sooner their respective strengths can be harnessed to make some real progress.

Building Services news

ISSN 0791-0878

Published by:

Pressline Ltd, Carraig Court, George's Avenue, Blackrock, Co Dublin.

Tel: 01 - 288 5001/2/3 Fax: 01 - 288 6966

ISDN 01 - 211 2338/9

email: bsnews@pressline.ie

web: www.buildingservicesnews.com

www.bsnewsbuyerguide.com

www.pressline.ie

Editor: Pat Lehane

Advertisement Director: Joe Warren

Origination and Design:

Pressline Ltd. Tel: 01 - 288 5001

Subscription: One Year – €70

Printed by: Swift Print Solutions (SPS).

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NEWS AND PRODUCTS

Toshiba charity world record attempt

Toshiba is planning a five nation's charity football event – taking in Scotland, Belfast, Dublin, Wales and England – to be played over 48 hours in a bid to establish a new world record.

Children in Need will be the main charity beneficiary but Derek Phelan of GT Phelan, Toshiba's distributor for Ireland, says the leg in Dublin will also raise funds for an Irish-based charity.

More details to follow.

BEMS control engineers sought

Standard Control Systems is seeking experienced and trainee HVAC controls engineers to work with Ireland's fastest-growing and most progressive BMS controls companies.

Working from the company's Dublin offices, successful candidates will cover the 26 counties and occasionally travel to the UK and the European mainland. The positions are especially suited to engineers who have experience working with Trend and Cylon systems.

Standard Control Systems is also looking for ambitious electricians who want to progress into this fast-moving and dynamic industry. Excellent terms and conditions are on offer, including mobile phone, laptop and vehicle.

CVs to info@standardcontrol.ie

APHCI warns of industry crisis

The Association of Plumbing and Heating Contractors of Ireland (APHCI) held a mass protest outside CER's offices in Tallaght on 22 May last to protest against the Commission's new mandatory training programmes.

APHCI has called on all plumbing and gas heating contractors to refuse to take part in new "and costly" training courses until the CER rethinks its approach. APHCI Chairman Sean Giffney said: "I'm sorry the regulators have decided to go down a road that will only encourage more black market activity, not less. These training courses will only weigh yet more costs on the compliant contractor."

"The regulators 'do-nothing' approach was bad enough, now they want to threaten and penalise compliant contractors and incentivise the black market players. We are calling on plumbing and heating contractors to stand together and not sign up for these new and costly courses until we can get the CER and RGII to see sense on this."

According to APHCI, the new rules mean that contractors will each have to pay over €1000 for the courses. Instead it proposes the adoption of a rigorous CPD training model. This would see appropriate training courses paid for by suppliers, regulated by the CER, and supported by the industry generally.



CIBSE DIT Student Awards



Back Row: Sean Dowd, CIBSE Chairman with Ger Reilly, DIT; Brian West, Judge (BDP); Paul Devereux, Judge (HEVAC); Enda Gilroy, Judge (PM Group); and Ciara Ahern, Michael Crowley and Ben Costello, DIT. Front Row: Robert Doyle, B. Tech with Patrick Boyle, B. Tech; Paul Lumley, B. Tech Winner; Kevin Gogarty, B. Eng. Winner; Jessica Smyth, B. Eng and Barry Ronan, B. Eng.

McConnell joins Mitsubishi Electric

David McConnell, who is widely known and respected throughout Ireland's building services sector, has been appointed Heating Products Manager with Mitsubishi Electric.

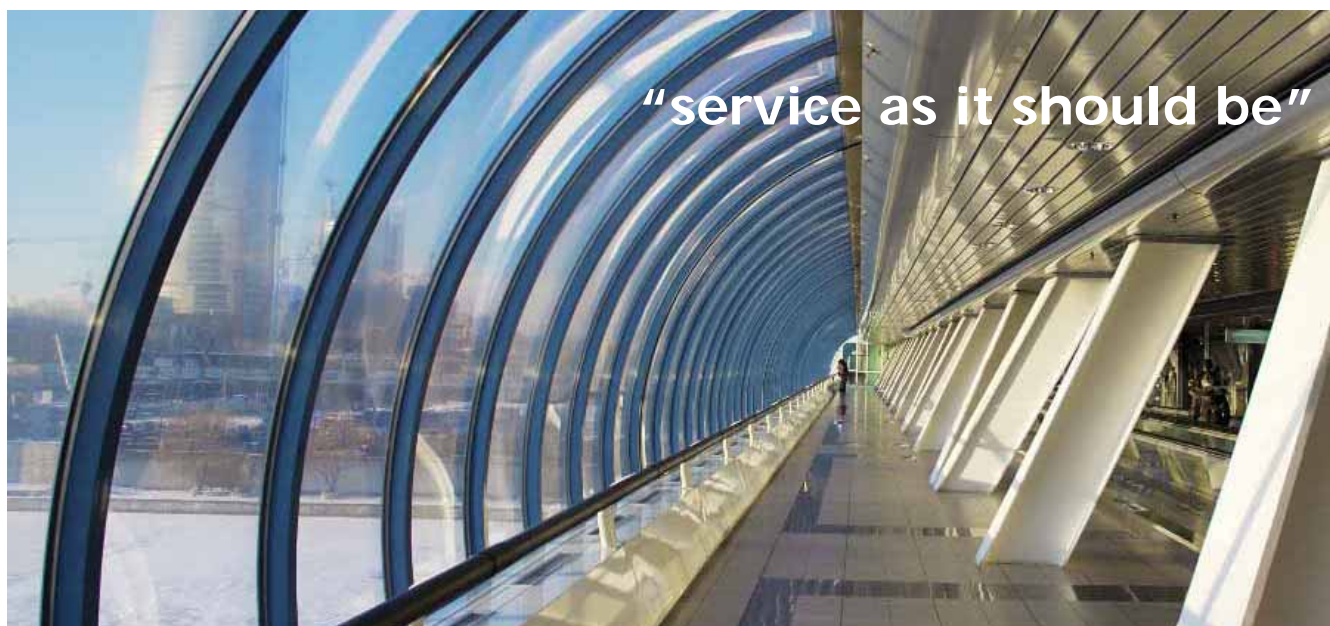
David has extensive knowledge of both electric and gas-fired heating products, and of heat pumps in particular. Indeed, he was instrumental in introducing air-to-water heat pumps to Ireland almost a decade ago while working with his previous employer.

As one of the leading European manufacturers in commercial and domestic air to water renewable solutions, Mitsubishi Electric is a pioneer in the development of renewable heat pump technology that offers improved energy efficiency while complying with all statutory and regulatory requirements.

In the Ecodan heat pump range Mitsubishi Electric has developed one of the most advanced and efficient heating systems available on the marketplace. Using proven heat pump technology to deliver effective, low-carbon heating and hot water, the award-winning Ecodan systems provide a simple, renewables solution suitable for small to large applications.

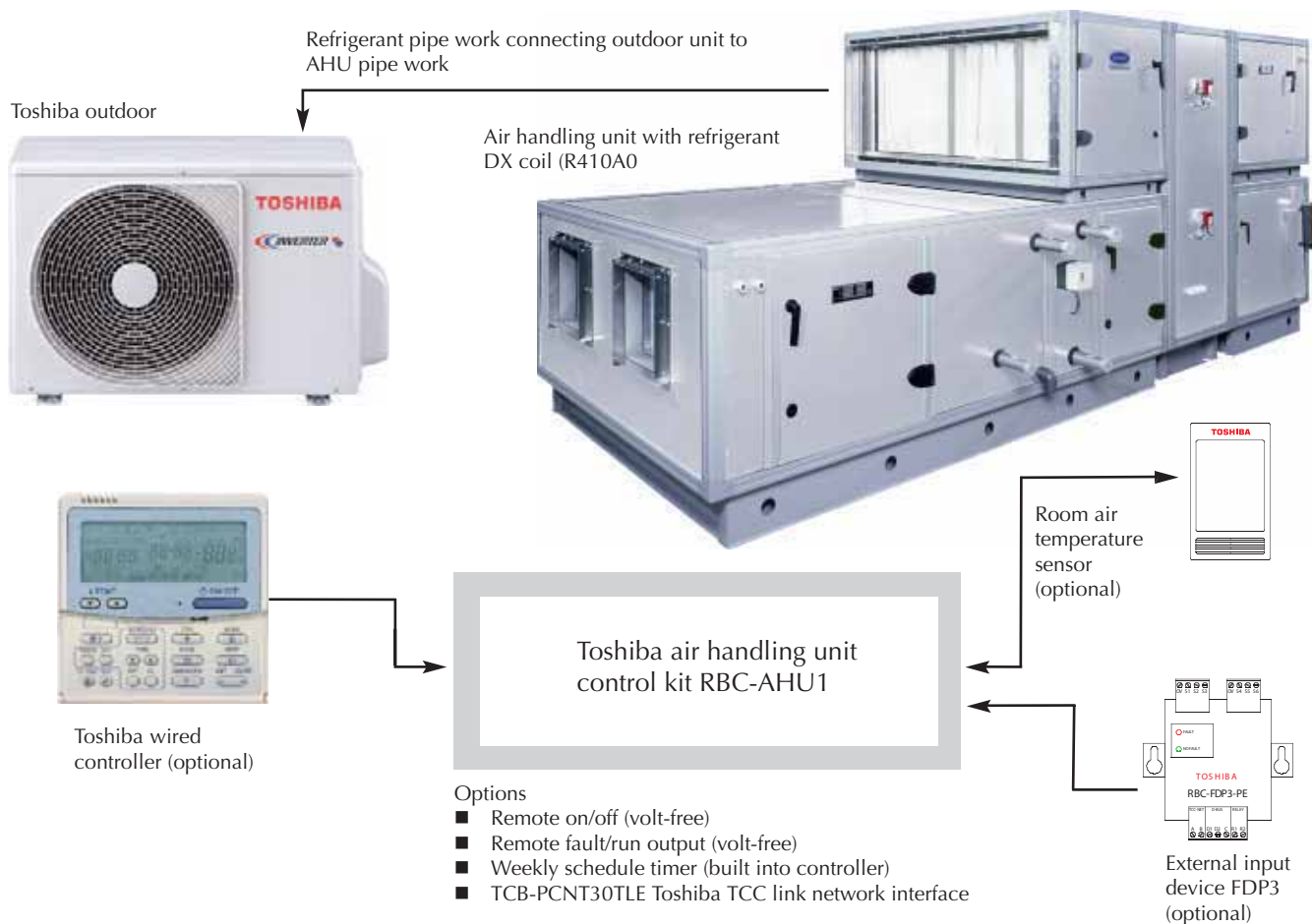
Contact: Dave McConnell, Heating Products Manager, Mitsubishi Electric. Tel: 01 – 419 8800; Mobile: 087 – 798 8917; email: david.mcconnell@meir.mee.com





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NEWS AND PRODUCTS

CER secures another installer conviction

The Commission for Energy Regulation (CER) successfully prosecuted an individual from County Meath on 28 May for illegally carrying out gas works, specifically the installation of a gas boiler, and for portraying himself as a Registered Gas Installer. This case was heard at the Navan District Court.

At the time, this individual was not a Registered Gas

Installer, and committed an offence under the Electricity Regulation Act, 1999.

The Court found the individual guilty of these offences and applied the Probation Act.

This prosecution represents the sixth of its kind by the CER (see page 28) and confirms CER's commitment to using its resources in the investigation and prosecution of individuals undertaking illegal gas works.

Masters of Engineering (Advanced HVAC Systems)

As and from January 2013 the academic requirement for registration as a Chartered Engineer with Engineers Ireland was raised to a Level 9 Masters Degree in Engineering. In addition, there is now a growing appetite, and need, for more dedicated education and research at this level.

It is against this background that the Department of Building Services Engineering in DIT Bolton Street has devised the proposed Level 9 Masters of Engineering (Advanced HVAC Systems) post-graduate degree programme.

The proposal is to deliver the programme in both whole-time and part-time mode, to commence delivery during the academic year 2014-2015. The validation process is currently underway so exact details have yet to be finalised.

Contact: Ben Costelloe, DIT Bolton St.
Email: ben.costelloe@dit.ie

SEAI Sustainable Energy Awards

Details of the Sustainable Energy Awards for 2014 presented by SEAI and sponsored by Electric Ireland have just been announced. The Awards are open to all involved in the industry and are intended to encourage and reward excellence in energy management.

There are 10 categories in total: Innovation; Collaboration; Research; Built Environment; Community; Industry; Public Sector; Small Business; Leadership; Electric Ireland Ambition Award.

For full details log on to www.seai.ie/energyawards

Mira and Rada added to Hevac portfolio

As we went to press Hevac announced that it had taken on two new agencies – Mira Showers and Rada Controls.



Mira Showers offer a full range of electric, mixer, thermostatic and digital showers and these are all now available ex-stock from Hevac.

There are models for both domestic and commercial applications, the most popular being Mira Elite, Mira Sport and Mira Vie electric showers.

Rada is a leading supplier of commercial showering and washroom controls. From single products to whole systems, Rada has the right solution for every application.

Phoenix Industrial Pipeline Equipment

Significant investment has secured up to 35 jobs and ensured the future of Phoenix Industrial Pipeline Equipment in Slane, Co Meath. The investment, by UK-based Dale Acquisitions, will assist new stock purchases and company restructuring, and support growth within both Ireland and abroad.

Phoenix Industrial Pipeline Equipment company supplies an extensive range of steel pipe and associated fittings

to the main mechanical and engineering contractors throughout the country. The company also offers both on-site and off-site services such as industrial painting and fabrication.

Steve Dale, Director of Dale Acquisitions said: "We recognise the strength of Phoenix Industrial Pipeline Equipment as a brand and, with its successful history, we aim to enhance its already sterling reputation."





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Free-Cooling
Chilled Water
Upblow/Downblow
Dx – Water Cooled
Close Control Air Conditioning

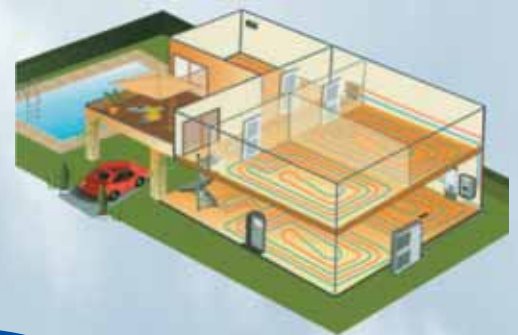


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email: info@coreac.com; Web: www.coreac.com

TROX appoints Walkair sole Distributor for Ireland

TROX has appointed Walkair as its sole distributor for Ireland for its full product portfolio. TROX has been innovating and developing components and systems solutions in central and decentralised ventilation and air conditioning technology for more than 60 years and these are now available in Ireland through Walkair.

These pioneering products have made TROX an international market leader with all applications catered for, be it new-build or refurbishment.

TROX components and system solutions are used in all areas of daily life, from office buildings through to laboratories, production plants, sports centres, hotels, museums, cleanrooms and even on ships, making the spectrum of possible applications of products and solutions extremely diverse.

However, TROX does not regard the development of high-quality, energy efficient and environment-conscious products – at competitive prices – as its only objective. First and foremost TROX strives to support customers with engineering know-how to enable them select and apply the best possible use of the full product portfolio.

This requirement was a critical factor in the appointment of Walkair as distributor for Ireland. Walkair, a member of the Daldrop

Group of companies, has extensive engineering know-how and application experience, making it the obvious choice to represent this premium brand in the Irish HVAC market.

For the past five decades Walkair has been at the forefront of the HVAC and close control air conditioning market in Ireland. It has collaborated on some very prestigious projects, working closely with consulting engineers, contractors and end-users alike. It has provided engineering solutions coupled with quality products, and overseen their application in the most cost-effective and fit-for-purpose manner.

The company sound bite – “Engineering the Air you Need” – is quite fitting as Walkair prides itself on being a solutions provider and not just a seller of HVAC components. This philosophy synergises perfectly with the TROX global ethos.

The principle ranges in the TROX product portfolio include:



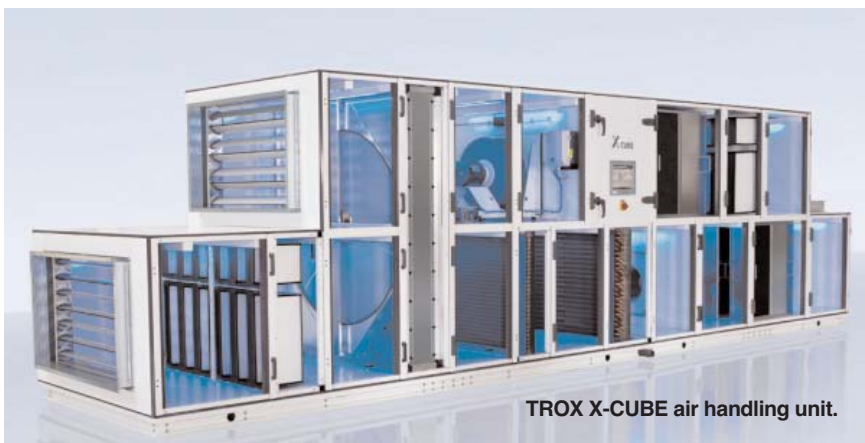
Carl Dumbleton, Sales Manager, Walkair with Tarek Sherif, International Business – Air Handling Units, TROX.

- X-CUBE air handling units;
- Air terminal devices;
- VAV terminal units and CAV controllers;
- Air-to-water systems including FCUs and chilled beams;
- Sound attenuators;
- Fire dampers and smoke extract dampers;
- LABCONTROL.

The TROX portfolio is made up of quality products that require a sound applied-engineering foundation to ensure correct selection, application and optimum performance at a reasonable cost. This is what Walkair provides.

“At Walkair”, says Carl Dumbleton, Walkair Sales Manager, “we believe you don’t have to pay the highest price just because you are getting the best quality product. On the contrary, TROX products have all the added value of quality, reliability, sustainability, optimisation and in-house expertise, but supplied at affordable, competitive prices.”

Contact: Carl Dumbleton, Walkair.
Tel: 01 – 456 8070; Mobile: 087 – 258 0022;
email: cdumbleton@walkair.ie



TROX X-CUBE air handling unit.

Controlling intelligent building technology easily — at home and on the go

www.gira.com/homeserver

GIRA



Central control using the Gira Control Clients

It is possible to control light, heating and blinds automatically, distribute music to every room, and switch off all electrical devices at the press of a single button. The Gira HomeServer makes buildings more convenient, ensures more security and helps save energy at the same time. It controls all functions of the KNX installation and integrates door intercoms, multimedia systems, cameras, household appliances and much more seamlessly into building control. The Gira Control Clients act as

the central operating devices. With their brilliant touch displays, they enable convenient control of the entire building technology with a single finger. In doing so, the intuitive user interface, the Gira Interface, allows quick access to the complete range of functions.

Fig. left: Gira Control 19 Client, glass black/aluminium,
Fig. right: Gira Control 9 Client, glass black/aluminium



Mobile operation using smartphones and tablets

Convenient mobile operation of the complete building technology is possible with the Gira HomeServer/FacilityServer app — using an iPhone, iPad or iPod touch, and now also Android devices. The user interface in the uniform Gira Interface design provides easy-to-understand and intuitive menu guidance and displays all the functions at a glance.

The Gira HomeServer/FacilityServer app is available in the Apple App Store and Google Play.

Fig. left and right: Gira HomeServer/FacilityServer app on the iPad and iPhone



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Intelligent building technology by Gira

KNX ... the multilingual communications tool for building services

While we are all familiar with the incredible capability and sophistication of modern-day building management systems and controls, perhaps the greater challenge now facing the building services sector is the communication platforms and protocols required to enable these products and systems deliver their full potential.



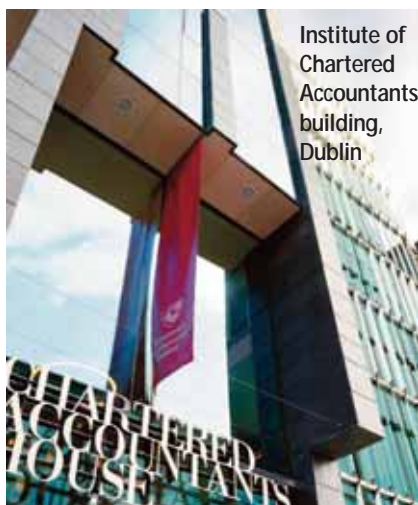
Niall Walsh

Those old enough to remember the debacle caused by the clash between Betamax and VHS when video recorders were first introduced will know exactly the problems that can arise. There is no point having advanced products and systems if the communications protocols and delivery channels are not uniform.

However, such a conflicting scenario is unlikely within building services. Thanks to the emergence of KNX technology, there is now an accepted world standard for the successful and efficient delivery of all modern-day building management systems and controls, whether the application is domestic or commercial/industrial.

KNX technology is suitable for every conceivable building services application, from heating, ventilation, air conditioning, energy management and lighting through to monitoring, water control, metering and security systems. An added bonus is that it is also suitable for both new-build and renovation/refurbishment.

While much talked about, the industry still has a great deal to learn and understand about KNX



Institute of Chartered Accountants building, Dublin

technology. Consequently, this explanatory article was specially prepared for *Building Services News* by Niall Walsh of KNX Ireland. *

KNX – world standard, royalty free

Put simply, KNX is the name of the worldwide standard for home and building control. It is suitable for use in all manner of building services

related applications and is approved to European CENELEC EN 50090 and CEN EN 13321-1); Chinese GB/T 20965; and international standard ISO/IEC 14543-3.

KNX involves no royalties, making related product development completely free. There is no need to buy any chipset from KNX Association, since the mission of KNX Association is not to generate profit but to develop and promote the KNX standard so that it is recognised as the worldwide standard for home and building control.

There are currently 350 KNX manufacturers worldwide who, between them, have more than 7000 KNX-certified product groups in their catalogues. In addition, the KNX Association has partnership agreements with more than 42,000 installer companies in more than 125 countries.

KNX also offers many special features, a critical one being that all devices from different manufacturers are able to work together in one installation. The interworking of all devices is assured by the unique certification scheme, which is overseen by KNX Association, the creator and owner of this technology. This high-level quality control is further underwritten by having neutral third parties run additional tests on KNX devices. Once certified, the product(s) in question can carry the KNX logo.

In order to ensure the quality of KNX even further, KNX Association has extended its certification schemes to certified KNX Training Centres. The certification of KNX Training Centres assures that the same high quality of training is



The Aviva Stadium, Dublin

The Convention Centre, Dublin



Passive house, Dublin



delivered all over the world. Beyond that, after successful participation at a KNX Basic Course, the participant is certified as a KNX Partner, which also underlines the expertise of the installer.

Currently there are almost 300 KNX Training Centres worldwide (including Ireland) and these have already conducted certified KNX courses for more than 41,000 certified KNX Partners. The success of KNX is reflected by the growing KNX community with 14 new KNX Training Centres already coming on stream this year.

Engineering Tool Software (ETS)

Next to the certification of devices, KNX offers another unique feature – the Engineering Tool Software (ETS). This commissioning tool allows the system integrators to configure a whole installation, no matter how many devices by different manufacturers are involved. This software is continuously updated and just recently the ETS5 version was unveiled at the light+building 2014 fair.

While commissioning with the ETS is called “System-Mode”, KNX also allows the configuration of devices via “Easy Mode”. This allows the commissioning of an installation by using the controller in the respective devices.

KNX also comes with a complete set of communication media. Next to the traditional green bus cable (twisted pair), KNX is also capable of communication via power line, IP/Ethernet and radio frequency. Via media couplers you can also use different

communication media in one installation.

Due to the openness of this technology, KNX can easily be coupled with other technologies, and this is proven by many successful cases of interfacing with BacNet or Dali.

Ongoing KNX development

In order to develop the KNX standard even further, KNX Association has strong partnerships with universities and R/D institutions all over the world. These “KNX Scientific Partners” are constantly engaged in KNX-related research projects to ensure that the technology is, and always will be, at the forefront of cutting-edge technology.

In addition to the worldwide activities of the international KNX Association, 41 KNX National Groups all over the world are neutrally

promoting the standard on a local basis, including Ireland. This ensures that KNX is made available to everyone who is involved in the field of smart homes and buildings.

Visit www.knx.org for more information about KNX. You can also follow KNX on Twitter (#KNXassociation) and Facebook.

*Contact: Niall Walsh, KNX Ireland.

Tel: 087 - 989 6428; email: niall@knx-tech.eu; www.knx.org/ie



Teminal 2, Dublin Airport



Informed decision-making requires accurate information

In an effort to increase annual profitability, businesses need to increase sales margins or reduce operating costs. Increasing sales margins can be difficult, especially in today's economic climate, so reducing operational costs, particularly energy costs, goes straight to the bottom line. Such measures also make for easier compliance with both statutory and voluntary "green" responsibilities.

Energy costs are typically among the top three operational expenses incurred by businesses. Consequently, large savings can be made by achieving small increases in efficiency. However, the greatest challenge lies in identifying precisely where best to make those savings.

Enter Enda Ruxton of Energy Supervisor ... he has the experience and



Enda Ruxton

tools to reveal energy inefficiencies within a business, and the ability to devise customised solutions to tackle and eliminate them. An added bonus is that these monitoring measures can be installed on a temporary basis to begin with, thus ensuring that the solution proposed on foot of the information captured is guaranteed to deliver energy savings.

Energy Supervisor Ltd offers a variety of energy monitoring solutions capable of measuring electrical loads, oil and gas consumption, thermal energy utilisation and water usage. All tools and protocols are all based on existing standards,

requiring no proprietary hardware or software for installation or data access. The hardware is specifically designed to be non-invasive, requiring minimal downtime on installation and reducing the up-front cost of implementation.

What cannot be measured cannot be improved.

All of the data gathered by the sensor technology is reported through the Cloud to Energy Supervisor's secure servers where it can be retrieved and analysed with the convenient click of a mouse. Precise activity-based, cost analysis can be performed on that data to reveal "hidden" energy wastage that can be proactively tackled and eliminated.

This analysis and targeted solution-solving is ideal when looking at different aspects of an operation. Take for instance the following examples:

Refrigeration

Older refrigeration and aircon systems can be inefficient in comparison to new products on the market, but providing clients with an estimated analysis based on product data sheets is very often not enough to convince them that investment in the new kit is worthwhile. Measuring the actual performance of existing systems and attributing costs based on activity provides real tangible costs for customers to instill them with the confidence to invest.

Energy monitoring systems can assist in maximizing the performance of expensive capital assets. For example, chiller systems require flow rate measurement to ensure that they are operating within manufacturers' recommended tolerances during commissioning and during their operating life.

Heating

Energy measurement of oil or gas consumption of a boiler, and heat output from the boiler, provides the boilers' operating efficiency showing when maintenance is due. Finding out where heat use and heat loss is within the distribution network can be achieved using heat meters. These can also be used for individual billing.

Lighting

The continuous debate between the merits of T5 lamps and LED products to substitute T8 fluorescent lighting causes many people to invest without measuring the "before and after" effect of their investment. Hence they never know if their decision was the correct one. Various lighting products have different lumen/watt performances, coupled with different life expectancy and lifetime performance.

Additional benefits

Apart from the obvious direct energy related savings, there are numerous other benefits to consider. These include:

- The ability to forecast energy expenditure on a month-to-month business contributes to the cash flow management of any business;
- Measurement of individual machines and devices can be used to predict maintenance requirements, e.g., if a motor normally operates at 1.5Kw and the load increases to 2kw, this is an indicator that the mechanical device it drives needs maintenance, the motor is overheating etc;
- Bench-marking of multiple machines, production lines, individual sites;
- Use of the software as a decision support system for investment decisions;
- Use for implementation and measurement of ISO standards such as 50001;
- Automatic meter reading to allocate costs to particular cost centres.

Contact: Enda Ruxton, EnergySupervisor. Tel: 042 – 950 0150
email: info@energysupervisor.ie ■



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The art of having control



Eco Air Systems completes Phase Two of Galway Radisson R22 upgrade

Eco Air Systems of Galway has just completed Phase 2 of a major R22 system upgrade at Galway's landmark Radisson Hotel. The project involved a total of 29 systems throughout the 257-bedroom hotel and the company worked very closely with Hitachi to devise and deliver the most energy efficient and cost-effective solution.

Hitachi's FSXN Set Free VRF range was used throughout with sixteen 3-pipe high-efficiency outdoor units being installed in conjunction with 135 indoor units that consisted of a mix of floor-mounted and ducted in-ceiling units, depending on the room configuration. A major bonus was not having to replace the existing pipework, thanks to Hitachi's specially-developed R22-R407c Renewal Kit.

"Given the nature of system upgrades, and especially in hotels where there is a pressing need for business continuity", says Terry Sullivan of Eco Air Systems, "being able to re-use the existing pipework is very important. It significantly reduces disruption, speeds up the actual replacement process, and of course makes for a significant cost reduction.

"In addition to the FSXN Set Free ranges for the hotel bedrooms, we also replaced two existing R22 chillers with one Hitachi Samurai high-efficiency unit. This now provides comprehensive and energy-efficient indoor climate control across all common areas such as the ballroom, restaurants, hotel lobby, function rooms and the gym."

That said, devising and installing a solution to deliver optimum indoor comfort is only one half of the equation ... providing the means to maximise its potential is equally important. This challenge was considered from the very early stages and Hitachi's CS Web Net control system was incorporated as part of the total solution from the outset.

Hitachi's CS Net Web is a stand-alone control system that allows the hotel to fully monitor and control the system from anywhere with web access. Single and multiple sites can be monitored from one central point and system performance can be evaluated and determined at all times.

"Hitachi's CS Net Web was a critical part of the overall system upgrade. It provides the hotel with maximum control and total flexibility across all indoor aspects of the hotel's operations, ensuring total guest comfort in an unobtrusive, 'silent' manner", concludes Terry Sullivan.

Contact: Fergus Daly, Area Sales Manager, Hitachi Ireland. Tel: 01 – 216 4406; Mobile: 087 – 277 9405; email: fergus.daly@hitachi-eu.com



Fergus Daly, Hitachi with Terry Sullivan and Keith Connolly of Eco Air Systems.





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SMART START

An intelligent innovation from MYSON. Our Smart Start Technology reduces heating bills by automatically delaying your system start-up time on warm days.

TOUCH SCREEN

The touch screen display is so easy to use. The screen is clear, the instructions are simple and the unit is slim and stylish.

MORE CHOICE

The MYSON TOUCH controls your room temperature and if required your hot water. The MYSON TOUCH RS controls your room, floor temperature or a combination of both.

Potterton Myson Ireland Ltd.

Tel: 01 459 0870 Fax: 01 459 0880

Email: sales@potterton-myson.ie www.potterton-myson.ie

Published by ARROW@TU Dublin, 2014





iNTOUCH
CONTROL SYSTEMS

InTouch Control Systems Achieve ISO 9001:2008 Quality Management Certification

InTouch Control Systems has dedicated offices in Cork and Dublin and specialises in the supply, commissioning and maintenance of building energy management systems (BEMS) for commercial, industrial and pharmaceutical applications. It is also an approved systems integrator for the following systems – Trend Controls, Johnson Controls and Distech Controls/Tridium.

Quality of system design, installation and commissioning is fundamental to the services provided by InTouch Control Systems and this has now been endorsed with the recent awarding of ISO 9001:2008 Quality Management certification.

Director John Reddin says the core company philosophy is to provide a good-value, high-quality, personal and friendly service, while maintaining a secure and progressive company for staff with ongoing challenging projects.

"Achieving ISO 9001:2008 accreditation confirms that we can deliver to that objective", says John, "and provides existing and potential clients with the confidence and peace of mind that we are committed to the continual improvement of our services. They know that they are dealing with a reputable organisation that treats the needs of its clients as a priority.



The InTouch Control Systems team at the Cork Office.

"By regularly evaluating the performance of our organisation at every level, we assure our customers that we are committed to providing them with superior customer service and the highest quality products, and that we have a robust management framework to ensure that happens."

When InTouch Control Systems was established in 2009 John's previous BEMS experience ensured he was well equipped to meet the challenge clients were facing in the marketplace. Ireland was in the middle of a recession. Making savings was a priority for every business if they were to remain competitive, and especially energy savings as they accounted for a growing percentage of operational overheads. An additional pressure was the need to be seen to be sustainable, and to reduce the businesses' carbon footprint.

"The key to reducing energy consumption", says John, "is to first identify wastage and inefficiencies in the running of a business's plant". Through metering you can accurately determine usage and wastage trends, and then implement control strategies to ensure energy usage is reduced, thus saving you money.

"One of our clients has made savings of 18% on its energy costs in just one year. Through investment in controls upgrades, modified programming of the building energy management system, and metering, it was able to optimise plant operation. This reduced running times and resulted in the significant energy and related cost savings achieved".

Strong partnerships

Johnson Controls supply quality HVAC parts and equipment for the world's most innovative buildings. Using InTouch Control Systems' extensive experience, systems old and new benefit from improved comfort, operational efficiency and energy savings. InTouch Control Systems has also formed strong partnerships with

Johnson Controls  Trend Controls and Distech Controls. This ensures that it can provide clients with both effective and cost efficient solutions to suit their needs.

Through this diverse range InTouch Controls Systems can devise and implement the most appropriate solution for each client's operational and budgetary requirements

TRID!UM  **TREND**

BEMS Services offered

- › Design and manufacture of motor control centres (MCC) and BEMS control panels;
- › Intelligent building control systems integration;
- › Electricity, gas and oil monitoring, heat metering with maximum demand control;
- › HVAC and cleanroom control systems;
- › Design engineering, commissioning and maintenance service;
- › Supply of Control System panels together with instrumentation and valves;
- › Lighting controls;
- › Boiler and chiller automation with energy reporting;
- › Interfacing with other systems including intrinsically-safe equipment for hazardous areas;
- › Emissions monitoring and alarms;
- › System support and back-up, whether the issue relates to system tuning, system fault or maintenance.

BEMS for validated environments

InTouch Control Systems has worked on the design, management and commissioning of high-profile validated BEMS projects in the pharmaceutical and medical devices industry.

This has given the company an in-depth knowledge and experience in the 21CFR Part 11 Directives for the HVAC industry, such as at Teva Pharmaceuticals, Waterford. Examples of the high level documentation produced includes:

- › Functional Design Specifications (FDS);
- › Hardware Design Specifications (HDS);
- › Factory Acceptance Test (FAT);
- › Site Acceptance Test (SAT);
- › Commissioning Document Protocol.



INTOUCH
CONTROL SYSTEMS

Cork: Unit 608 Harbour Point Business Park, Little Island.

T: 021 423 2258 E: projects@intouchcontrols.ie

Dublin: 2 Ballymount Road Upper, Dublin 24.

T: 01 440 8610 E: projects@intouchcontrols.ie

www.intouchcontrols.ie

Myson Touch range of programmable thermostats



The Myson Touch range of programmable thermostats from Baxi Potterton Myson allows the user to set different room temperatures for the morning, day, evening and night time. Easy to use, the touch screen is clear and bright, and operation is simple.

The Myson Touch incorporates "smart start" technology that saves both energy and money by delaying the heating start-up time when the weather is warmer, and ensuring that the home is warm when needed. Features include temperature hold, temperature override, and holiday function.

Two models are currently available – the Touch and the Touch RS. There are four adjustable timed periods and, if activated, the second timed channel can control the on/off times of the hot water.

The Myson Touch RS is primarily designed for underfloor heating systems. It allows the control of room temperature with four adjustable timed periods by sensing the temperature of the room, floor, or a combination of both. The RS version is supplied as standard with a 3-metre remote sensor. ■

Myson TRV 2-Way now A-rated

Although a tried, tested and very successful product within the Myson range of controls, there is always a new demand to be met. Specifiers, installers and the general public are all looking for a simple means of comparison between products.

The Myson TRV 2-Way has been around for a long time, proving its worth in simplicity of control and energy saving. Responding to industry changes Myson modified the unit to provide competence of operation whichever way the water was to flow through the valve – hence the name "2-Way".

Then the home market wanted further changes, to ensure that if the valve was closed off and the radiator removed, there was no danger of water being released from the valve on a cold night. Hence the positive shut-off facility.

Now there is a requirement to carry a direct comparator to confirm comparable efficiency in the form of a colour coded rating – a Thermostatic Efficiency Label in accordance with TELL (a product classification system of the European TRV industry). The classification gives a grading from A to G, with A the top grade.

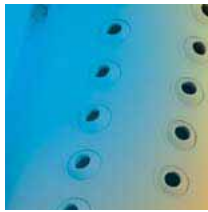
The Myson TRV 2-Way carries the TELL A-rating, confirmation that it meets the highest of standards. Add to this the variety of valve bodies available, with or without the addition of push-fit



connections, and Myson provides a product that can be relied on to appeal to all users.

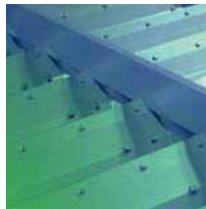
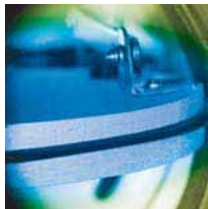
Contact: Baxi Potterton Myson. Tel: 01 – 459 0870;
email: sales@potterton-myson.ie; www.potterton-myson.ie ■

Air terminal devices



Ventilation and Exhaust Fans

Air management systems



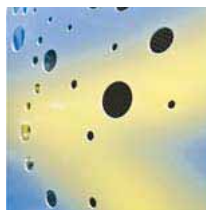
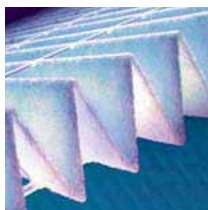
Air handling units

Fire and smoke protection components



Silencers

Air-water systems



Air terminal units

Filter units and filter elements



Automation and system technology



Walkair Ltd
Unit 901
Western Industrial Estate
Dublin 12
Tel: 01- 456 8070

Published by ARROW Dublin, 2014

Walkair
Web: www.walkair.ie

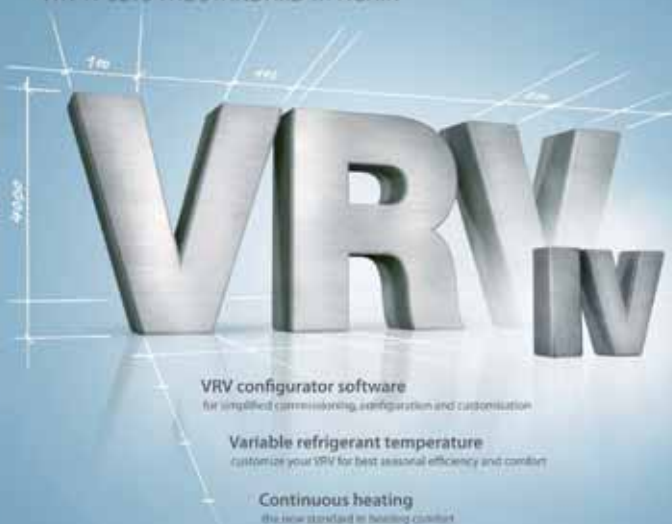
Get ready for a new genera



VRV IV

HARD TO BEAT

VRV IV SETS THE STANDARD ... AGAIN



- VRV configurator software
for simplified commissioning, configuration and customisation
- Variable refrigerant temperature
customize your VRV for best seasonal efficiency and comfort
- Continuous heating
the new standard in heating comfort

VRV IV sets the standard all over again



DAIKIN VRV IV sets the standard with revolutionary technologies, such as variable refrigerant temperature control and continuous heating during defrost for heat pump units.

Its advanced VRV configurator software is a time-saver that simplifies commissioning, configuration and customisation. This is backed up by automatic refrigerant charging and remote refrigerant containment check allowing quick and easy installation.

Contact VRV@daikin.ie

<https://arrow.tudublin.ie/bsn/vol53/iss3/1>



360° Efficiency

Daikin Ireland - I

On 19th June, Daikin Ireland held their conference at Citywest hotel featuring the launch of 2 important new products; VRV IV Heat Recovery & the

90 Years Of

This year the parent company, Daikin Industries Ltd. celebrate 90 years since their foundation. In the 90 years Daikin have been responsible for many innovations, of which the original VRV

Environment

At the Annual awards dinner of the Institute of Refrigeration in Ireland (IRI), Daikin Ireland were delighted to receive the "Environmental Award" for the Convenipac retail refrigeration system.

For more information
Call 1800-324546

www.daikin.ie

ation of Daikin innovations

DAIKIN

cy Redefined !

Products Launch

Altherma gas hybrid heat pump.
If you missed the conference
please email info@daikin.ie for
a conference pack.

Innovation

was one of the most significant.
Our competitors followed with
their own interpretations but
with the latest version IV, Daikin
retain their lead in innovation.

ental Award

This system recovers the heat
produced in the retail refrigera-
tion cycle and reuses it to pro-
vide heat in the shop, delivering
significant savings in energy
usage and CO2 emissions.

contact Dakin today!
Email info@daikin.ie

daikin.ie

Published by ARROW@TU Dublin, 2014

Daikin Altherma hybrid heat pump

The natural combination



Heat pump and gas condensing boiler in one, the best of two technologies!

- Up to 35% efficiency increase compared to condensing boiler
- Most economical mode to operate
- Heating and domestic hot water
- Hybrid technology
- Gas condensing boiler of 33 kW
- COP in heat pump operation: 5.04



The Daikin Altherma hybrid heat pump is the ideal solution for the replacement of a gas boiler.

Depending on the outdoor temperature, energy prices and the internal heat load, the Daikin Altherma hybrid heat pump smartly chooses between the heat pump and/or the gas boiler, always selecting the most economical mode to operate.

Contact Heating@daikin.ie

Panasonic has developed a new intelligent LCD remote control panel that integrates all hotel devices, including Panasonic's ECOi VRF system.

Panasonic Intelligent 'all in one' control panel for hotels

This new Panasonic "All in One" LCD control panel meets the demand from hoteliers for systems that offer energy savings, while also providing hotel customers with control over the complete room environment. Panasonic's latest remote control integrates all key devices in a hotel room to ensure that visitors can operate the various aspects from one panel.

Bespoke to each installation, the remote control integrates lighting, card reader, blinds, window contact, motion detector and air conditioning. It is easy to understand and hotel customers can alter the settings for these different applications.

The actual installation is easy as all the cables are directed to the remote control. A pre-defined scenario can be uploaded on the remote control and connected to a computer to provide an onsite plug-and-play installation option (only on the LonWorks model).

"Guests expect a lot more control when they stay at a hotel" says Vincent Mahony, General Manager, Panasonic Ireland. "Heating and cooling plays a key role in this, as well as a number of other room functions. We identified the need to provide an attractive-looking remote panel which provides the customer with that control. Not only does this answer the customer demand, but it also provides the hotelier with an energy saving solution."

With BMS (Building Management Systems) the usage and settings in each room can be monitored from the hotel front desk and, where necessary, can be altered to make it more energy efficient. This also ensures that where a problem arises it can be easily identified and promptly rectified.

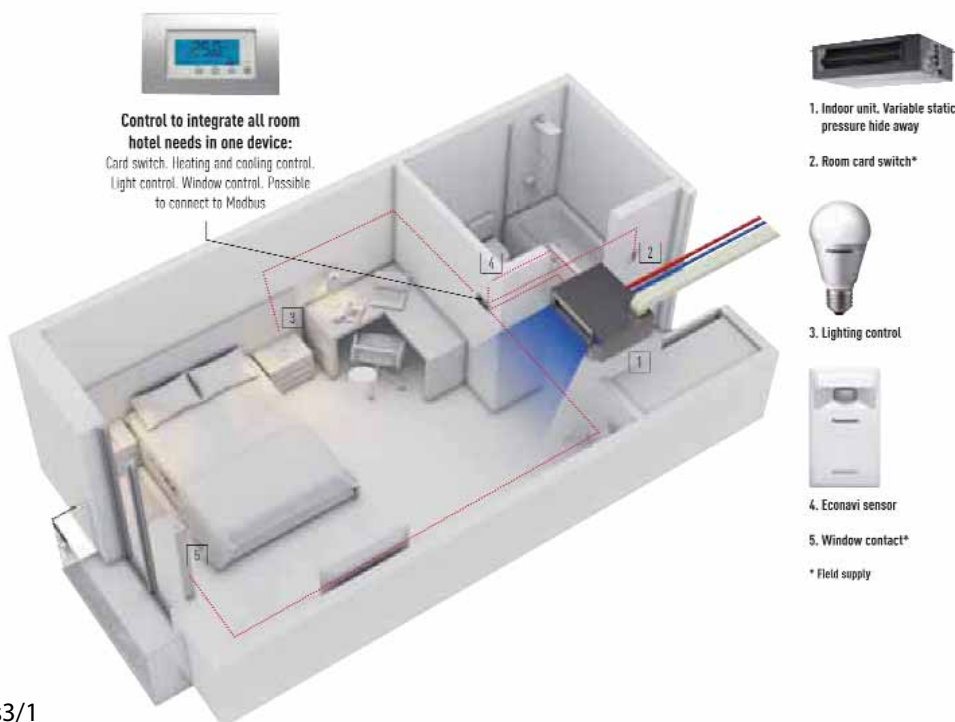
Among the energy saving functions included in the Panasonic "All in One" control panel are:

- Turns off the air conditioning and lighting when the room is unoccupied;
- Disables the air conditioning when a window is open;
- Maximum/minimum setpoint temperature configurable.

Main features and benefits

- Easy to install (standard dimensions for EU electrical boxes);
- Cost effective: all electrical cables are centralised on the remote;
- Attractive architect-inspired design;
- Direct connection to the indoor unit;
- Available in white and aluminium;
- Three options available – Stand-alone, Modbus or LonWorks communication.

Contact: Vincent Mahony, Panasonic Ireland. Tel: 01 – 413 5311; Mobile: 087 – 969 4221; email: vincent.mahony@eu.panasonic.com



Standard Control Systems

30th anniversary marked by major expansion

With 2014 marking the 30th anniversary of Standard Control Systems, it is appropriate that far from resting on its laurels, the company has embarked on a new expansion phase. Its Dublin headquarters has been refurbished and enlarged, it has opened a new office in Newtownabbey, Co Antrim, and it continues to win major projects all across mainland Europe and in the Middle East.

Standard Control Systems is primarily involved in the provision of fully-functioning, highly-complex but user-friendly BEMS systems across all segments of the construction industry. Services include the engineering, supply, installation and commissioning of control panels, field controls, process controllers, bespoke GUI mimics and software programming.

"The primary objective of the solutions we provide", says Standard Control Systems' Sean O'Toole, "is to ensure maximum performance of the facility while, at the same time, continuously monitoring and interfacing with all the building services elements to reduce energy consumption and save on running costs".

The company has considerable experience and expertise in the close control and monitoring of:

- Data Centres;
- Pharmaceutical;
- Healthcare;
- Industrial;
- Educational;

- Hotel and Leisure;
- Commercial;
- Retail.

Standard Control Systems also has expertise in providing turnkey solutions for clients and has, for example, on many occasions removed old legacy systems and replaced them with up-to-date Ethernet-based systems.

The core services provided by Standard Controls Systems fall under three primary categories – BEMS, Validation and Ligo Lighting by open technology.



Sean O'Toole

Building Energy Management Systems

Standard Control Systems designs and installs BEMS solutions to control and monitor buildings' mechanical and electrical equipment such as air handling and cooling plant systems, lighting, power systems, fire systems and security systems. The solutions provided include both the software and the hardware.

Full system support and back-up is also provided. Service engineers are always only a 'phone call away, whether the issue relates to maintenance, system tuning or fault diagnoses. In most cases an in-house telephone modem service will have been installed and this allows immediate access and analysis of any plant operating difficulties experienced by the operator.

Validation

Validation is applied to many aspects of pharmaceutical manufacturing, including instrumentation, HVAC systems etc. In each case the objective is to produce "documented evidence, which provides a high degree of assurance that all parts of a facility will consistently work correctly when brought on-line".

LIGO Lighting by Open Technology

Standard Control Systems also supplies the ground-breaking LIGO lighting control systems. This system is designed to interface with BEMS systems, if required. Alternatively, it can fully function as a stand-alone system with access via a standard Internet browser.

The lighting control system provides control and integration of all DALI control components that make up the system, including ballasts, emergency ballasts, intelligent sensors, PIR and light level, and switches and scene plates.

Contact: Sean O'Toole, Standard Control Systems. Tel: 01 – 4291800; Mobile: 087 – 2505571; email: info@standardcontrol.ie



Veloduct ETCE Fire damper



KEY BENEFITS

- CE-marked
- Veloduct/EPDM rubber sealings
- Various installation options
- Easy installation
- Wide size range coming soon

FläktWoods

For your personal safety The new member of the Veloduct family

The new Fläkt Woods CE-marked fire damper Veloduct ETCE is designed to fulfill the requirements for harmonized product standard EN 15650. The construction of ETCE follows the quality of Veloduct fittings with EPDM rubber sealings in casing with very low leakage rates and easy installation.

Veloduct ETCE shall always be installed inside the wall or floor according to installation instructions.

FIRE CLASSES

- **EI 60 ($v_e - h_o$ i <-> o) S**
Installation into rigid building elements (walls and intermediate floors) or into flexible walls (gypsum board or similar)
- **EI 90 ($v_e - h_o$ i <-> o) S**
Installation into flexible walls (gypsum board or similar)
- **EI 120 (h_o i <-> o) S**
Installation into rigid intermediate floors

VERSIONS

- Motorized version, sizes from 100 to 400
- ETCE-aaaa-03-1 (24V-T)
- ETCE-aaaa-05-1 (230V-T)

Fläkt Woods (Ireland) Ltd

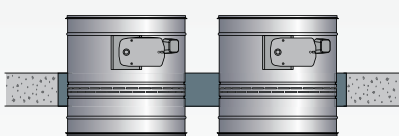
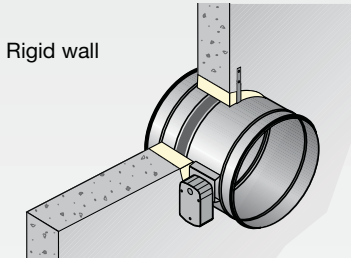
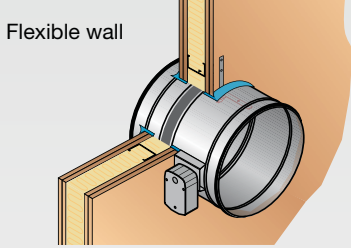
Dublin: Tel: 01 - 463 4600; Cork: 021 - 429 7450; Belfast: 028 - 9040 2100



Veloduct



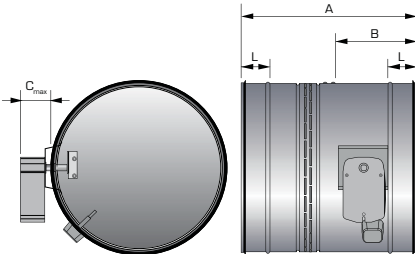
INSTALLATION



Intermediate floor

The new member of the Veloduct family

Fläkt Woods' new ETCE fire damper is designed for wall or intermediate floor installation. Light-weight construction enables quick, easy and cost-effective installation. The Veloduct joint ensures tight duct installation and simple integration.



ETCE | DIMENSIONS AND WEIGHT (motorized damper)

Size D1	A (mm)	B (mm)	L (mm)	Cmax (mm)	Weight (kg)
100*	416*	195	35	100	3,8
125	416	195	35	100	3,4
150	416	195	35	100	3,7
160	416	195	35	100	3,9
200	416	195	35	100	4,5
250	416	195	40	100	5,5
300	416	195	40	100	6,7
315	416	195	40	100	6,9
400	416	195	60	100	9,0

*Delivered with 2x reducer piece BDED-1-012-010, when the total length is 556 mm.

www.flaktwoods.com

FläktWoods

Delivering healthy and sustainable cities!

Tim Dwyer, Technical Symposium Chair and organiser of the latest CIBSE/ASHRAE Technical Symposium held in Dublin recently, has written this overview of the event for *Building Services News*. All the papers, plus those from previous years' symposia, can be accessed online for free at cibse.org/symposium. Tim can also be contacted at email: tim.dwyer@ucl.ac.uk

Despite being greeted with Dublin rain, the warm reception given by the team from CIBSE Ireland set a bright scene for the visiting CIBSE group who travelled over from London on the day prior to the technical symposium. Joined by the eager catering, technical, portering and academic representatives from the DIT and Pat Lehané, *SDAR Journal* and *Building Services News*, final plans were fine-tuned ready for two plus days of technical presentations and, of course, the all-important "networking".

Opened by CIBSE President George Adams, with an Irish perspective being positively presented by Brian Motherway, Chief Executive, SEAI, the meeting got off to a flying start. There followed an exciting and enlightening series of formal presentations, fast-track, four-minute poster pitches, and an excellent set of poster displays.

One of the first presentations – *It's not easy being green: Walgreens net Zero energy store* – presented by Chicago-based engineer Benny Skelton, was voted as "The most significant contribution to the art and science of building services engineering" presented at the symposium. Tackling engineering and organisational challenges that would not be unusual in many of the world's cities, Skelton showed that with inventive engineering application, and

working closely with the client and the construction team, they were able to apply globally-sourced solutions to deliver a building that is predicted to



Tim Dwyer,
Chair of
CIBSE/ASHRAE
Technical
Symposium.

use half the energy of similar stores, and accounting for on-site production of renewables that will meet its net zero aspiration.

A lively debate – *Cities are not Sustainable* – chaired by local engineer and past CIBSE Ireland chair Margaret Dolan completed the formal proceedings on day one. Two teams gave a robust defence of their side of the argument. One team was made up of a north American contingent of engineers including Larry Spielvogel, Don Beaty and Bill Bahnfleth (ASHRAE President), while the other represented the wider CIBSE membership. This included Richard Rooley, Ant Wilson and George Adams (CIBSE President). Although no vote was taken at the end

of the debate, there was intense and fiery discussion from the floor that provided extended confab during that evening's excellent reception on the top floor of the Guinness Storehouse.

On day two Alex MacLaren and Richard Rooley, FCIBSE and past President of ASHRAE, presented a paper that described the building procurement process and the way in which building services fit in. This was intertwined with an overview of the Teambuild competition (www.teambuilduk.com) and the team build process of training young professionals as offered across the whole industry.

The presentation was voted, by all attendees, as the "most effective delivery of material" over the whole symposium. The award recognises the presentation that most effectively delivered its key messages and is a mark of success in clearly communicating ideas to others in a constrained format. There was little doubt that Rooley and McClaren team presentation skills were justly worthy of such an award!

One of the technical messages that came across clearly was that there is still an enormous opportunity for the building services engineering community to provide simpler, more robust solutions that can be readily operated and maintained by the building user.

This certainly is not to imply that there is no place for innovation. The need for holistic understanding and "two-way" communication was clearly illustrated in the "exemplar" housing project discussed by Rajat Gupta. As presented in one of the final sessions of the meeting, the project appears to not only have used technologies that might be thought of as inappropriate, but also to have woefully underestimated the need for planned communication and education with both the client and the end user. Here's to next year's event ■

Liebert unveils world's first adiabatic free-cooling chiller

The Liebert® AFC – the world's first adiabatic free-cooling chiller – is now available in Ireland from Core Air Conditioning. Designed to maximise free-cooling capabilities while delivering guaranteed availability within the data centre environment, it delivers three cooling technologies in one highly-reliable and efficient unit, saving businesses up to 30% in annual energy costs.

The Liebert AFC combines the exceptional levels of energy efficiency allowed by adiabatic free-cooling, together with the endless availability guaranteed by the multi-scroll compressor back-up. This pioneering adiabatic system enables water evaporation which lowers the air temperature entering the free-cooling and condensing coils, consequently increasing free-cooling operation and mechanical efficiency.

Moreover, it maximises free-cooling all year round while maintaining 100% cooling availability, even under the most critical conditions. These include fluctuating power supplies, water shortages and extreme external air temperatures.

"This is genuinely pioneering technology", says Steve Wood, Sales Manager, Core AC. "A consolidated design and the integration of new technologies have led to the most efficient water cooler in the market, resulting in partial Power Usage Effectiveness (pPUE) of 1.08, lower than any other chilled water system. In addition, the Liebert AFC provides a significant increase in terms of

energy savings when compared with other efficient chilled water systems on the market.

"For example, in a typical 1.4 MW data centre located in central Europe running at full load, a free-cooling chiller will consume approximately 963,000 kWh of energy per year, based on current market offerings. However, this is reduced to 645,000 kWh over an annual period with the Liebert AFC. This reduction in energy consumption equates to a cost saving of almost €50,000 based on an energy cost of 0.15 €/kW."

Emerson Network Power is continually striving to develop data centre solutions for the future. These are designed to optimise availability to the customer in any circumstance and this commitment was marked last year with the launch of its dedicated Thermal Management business. Drawing on the combined experience and industry-leading knowledge within the Thermal Management business, the Liebert AFC solution seeks to address

the complex requirements of enterprise-scale and colocation facilities, in order to reliably and efficiently control and manage heat.

"Over the last few years the data centre ecosystem has become mission-critical in supporting major innovation trends such as cloud computing, the latent power of 'big data', and the exponential rise of mobile devices", says Austin McDermott, Managing Director of Core AC. "This, in turn, has made for an increase in operating temperatures within which IT infrastructure functions.

"Our latest Liebert AFC adiabatic free-cooling chiller seeks to address some of the evolving pressures around this growing requirement for heat management. Driven by our understanding of the challenges facing our customers, we are adopting innovative methods – like the newly-introduced adiabatic cooling – to deliver pioneering data centre solutions."

Contact: Austin McDermott or Steve Wood, Core AC. Tel: 01 - 409 8912; email: austin@coreac.com; steve@coreac.com ■

Liebert AFC 14 fan adiabatic



IRI AWARDS



Awards night freezes no one out!

This year's recent Irish Refrigeration Institute Awards night proved yet again that, of all the building services related representative bodies, IRI is unique. It somehow manages to combine the serious matter of peer-vetted industry awards with a wonderfully-relaxed social occasion.

As always, a capacity attendance convened in the Crown Plaza Hotel, Santry in Dublin's northside, for an evening of presentations, food, fun, entertainment and dancing into the early hours.

President Seamus Kerr and his committee deserve great credit for the

It may be the refrigeration sector flagship event but the atmosphere is warm and inviting ”



Alan Rasmussen, Frank Healy, Jonathan McGrath, Eddie Lynch, Paul Keegan and Robert Brett, all from Cross Refrigeration, with Seamus Kerr, current IRI President and Declan Fitzmaurice, incoming IRI President.

format of the occasion, and especially for keeping speeches to a minimum. Indeed, there were no speeches as such, save perhaps for some of Seamus' more obscure ramblings and observations!

Awards' Winners

IRI Environmental Award
Daikin Ireland/Carel Ireland/Tesco Ireland

IRI Energy Award
Cross Refrigeration Ltd

IRI Contribution to Industry Award
Dermot Byrne

IRI Training Award
Tech Refrigeration & Air Conditioning

IRI Young Engineer Award
Keith Mc Greevy, Tech Refrigeration

IRI Innovation Award
Novum Overseas

It may be the refrigeration sector flagship event, but the atmosphere is warm and inviting. Well done to all involved in making it such a successful and enjoyable evening.



Liam Kirwan, Daikin with Keith McGreevey, Tech Refrigeration & Air Conditioning, Seamus Kerr, IRI President, Eoin Lennon, Novum Overseas and Dave Killalea, Carel Ireland.



Paul Keegan, Cross Refrigeration with Dermot Byrne, Fridge Spares, Declan Fitzmaurice, incoming IRI President and Vincent Weldon, Tech Refrigeration & Air Conditioning.

Toshiba Series 7 ceiling units have improved performance and lower sound

Toshiba Series 7 ceiling unit



The new range of ceiling-mounted air conditioning units from Toshiba, designed to be easy-to-fit and with exceptionally low noise characteristics, is now available from GT Phelan.

Claimed to be “best in class”, the advanced Series 7 indoor units have been completely redesigned and come in a wide range of capacities, including a 6hp unit. Featuring a modernised appearance to the front grill, the units have a bigger chassis to accommodate a larger, more efficient heat exchanger.

The new design manages to deliver

larger air volumes (up by 38%) while operating with lower sound levels (down 9%). This is due to the redesigned fan that optimises the passage and delivery of air through the unit.

Toshiba’s research team discovered that turbulence in the throat of fan housings can reduce the “throw” of air leaving air conditioning units, reducing

cooling and heating effectiveness in the conditioned space. However, the new Series 7 has a redesigned fan housing with a turbulence-prevention device to overcome this. The result is a more effective air stream delivered into the room, with reduced noise and lower power consumption.

The Series 7 range also has a self-cleaning function, which maintains performance and further reduces the need for servicing.

Evaporators are coated with a special resin that stops dirt and mould from sticking to heat exchange fins. Gravity-fed condensation water then flows over coils and washes any dirt away. A drying cycle prevents the formation of mould.

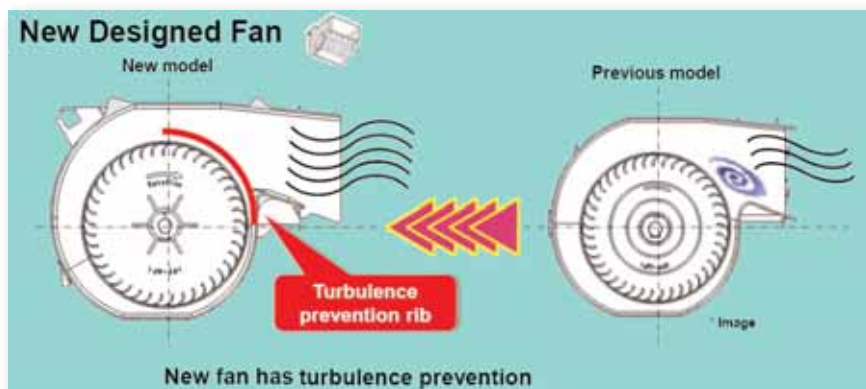
An optional drain pump kit uses specially impregnated anti-bacterial glass to further ensure system hygiene.

Due to their low noise and high efficiency, Series 7 units are ideally suited for use in schools, hospitals, hotels and other applications requiring whisper-quiet operation.

Contact: Derek Phelan, GT Phelan.

Tel: 01 – 286 4377; email:

derek@gtphelan.ie; www.gtphelan.ie ■



The new fan design reduces turbulence.

CER gets tough on non-registered gas installers

On 18 February last the Commission for Energy Regulation (CER) successfully prosecuted a Martin Kierans from County Louth for illegally carrying out gas works, specifically the installation of a gas boiler, and for portraying himself as a registered gas installer (RGI). This case was heard at the Drogheda District Court.

At the time, Mr Kierans was not a registered gas installer, and committed an offence under the Electricity Regulation Act, 1999. The Court convicted him and imposed a fine of €250, in addition to awarding costs in the amount of €250 to the CER.

This prosecution by the CER emphasises the requirement, by law, for all gas installers to be registered with the Register of Gas Installers of Ireland (RGII) before carrying out any gas works or else to face prosecution.

Commissioner for Safety, Paul McGowan stated: "In the interest of safety, all gas works relating to domestic appliances must be completed by registered gas installers. This is a legal requirement and this case is a clear signal that CER will undertake prosecutions against unregistered individuals that act outside the law."

Before the most recent case the CER had previously successfully prosecuted other individuals under the legislation. These convictions included an individual from Co Kildare for illegally carrying out gas works, specifically the installation of a gas boiler. He was fined €750 on conviction.

Then there was an individual from Co Limerick who, on conviction, was fined €400, and another from Co Kerry who was fined €100 for illegally carrying out gas works.

Another was an individual from Co Dublin who again was prosecuted for illegally carrying out gas works. On this occasion the presiding judge allowed the defendant to pay a sum of €400 to the Marymount Hospice. Once the sum was paid the judge gave the defendant the benefit of the Probation of Offenders Act.

Under the Electricity Regulation Act 1999, as amended, the CER has responsibility to regulate gas undertakings and gas installers with respect to safety. The CER also has the responsibility to regulate LPG undertakings and LPG installers with respect to safety. The CER appointed the Register of Gas Installers Ireland (RGII) to carry out this function on its behalf. Any person wishing to carry out gas works (as defined under Statutory Instruments 225/2009 and 299/2011 – Gas Works) is required by law to register as a Registered Gas Installer (RGI) with RGII. There are now over 2,700 RGIs in Ireland.

The term "Gas Works" was defined in Regulations (SI 255 of 2009 and SI 299 of 2011) as the installation, removal, repair, servicing, maintenance or replacement (or any combination of the foregoing) of a natural gas or liquefied petroleum gas fitting (including appliances) covered by IS 813 and/or IS EN 1949 which is:

- (a) used or designed to be used by a domestic gas customer; or
- (b) which is designed to be used by a domestic gas customer but which is installed in a commercial or an industrial premises.

Visit the CER website – www.cer.ie – for more details. ■



Mitsubishi Electric ... looking forward to a green future

Mitsubishi Electric, a leading green technology company and industry market leader, has re-affirmed its commitment to Ireland with the announcement of a multi-million euro investment in its Irish operation. This investment process has already commenced with a major refurbishment of its landmark headquarters at Westgate Business Park, Dublin 24, where new offices and a state-of-the-art customer training and technology facility has been completed.

Spearheading this new

development phase is Ciarán Moody who has been appointed to the position of General Manager for Ireland. Ciarán has been with Mitsubishi Electric Ireland for many years and senior Mitsubishi Electric Group executives were in Dublin recently to announce Ciarán's appointment and to officially open the new facilities. They included Mr Uruma, CEO and President, Mitsubishi Electric Europe BV and Mr Furuta, President, Mitsubishi Electric Europe BV UK & Ireland Branches.

"Mitsubishi Electric has a strong heritage in Ireland going back over 30 years", says Ciarán "and the latest investment demonstrates Mitsubishi Electric's confidence in the Irish branch and in Ireland's economic recovery.

"In addition, the investment in Ireland also represents a jobs boost with staff levels increasing in recent months across the two divisions of Mitsubishi Electric – Factory Automation, which offers a vast range of automation and processing technologies; and the Living Environmental Systems Division, which provides heating, cooling and ventilation solutions.

About Mitsubishi Electric Corporation

With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognised world leader in the manufacture, marketing and sales of electrical and electronic equipment used in all manner of applications.

These include information processing and communications; space development and satellite communications; consumer electronics; and industrial technology, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 121,000 employees the company recorded consolidated group sales of €29.5 billion in the fiscal year ended 31 March, 2013. It has sales offices, research and development centres and manufacturing plants in over 30 countries. ■

Below: Ciarán Moody, the newly-appointed General Manager, Mitsubishi Electric BV Ireland Branch (centre) with Mr Uruma, CEO and President, Mitsubishi Electric Europe BV and Mr Furuta, President, Mitsubishi Electric Europe BV UK & Ireland Branches. .



Climote targets management of €40 billion home heating/hot water spend

Climote has already secured partnerships with three major energy utilities in Ireland and the UK, which will see Climote being available to millions of their customers.

The motivation behind the development of the Climote Hub was to solve the problem people had in adapting to digital time clocks from mechanical devices when managing their heating. Customers wanted the sophistication of modern technology but in a device that “aped” a mechanical mentality.

The result of considerable research and development was Climote Hub, which can be installed in half an hour and directly replaces the traditional timer on the wall. The heating system can then be controlled at the unit itself or via laptop, smartphone, iPad or mobile phone.

Users can create schedules, copy and paste times, and monitor heating via the Climote web portal. The Climote app for iOS and Android smartphones allows them to set schedules with a simple swipe. Alternatively, they can send a text command directly from their phone to the installed unit using pre-programmed commands.

Reporting functions, meanwhile, allow users to monitor their energy consumption. Climote has a patent on both the product and the interface.

“What is really inventive about Climote Hub”,

says Derek Roddy, “is we’ve taken the old round mechanical clock and brought it onto a digital platform. The invention is more to do with the way we do it and its simplicity, because the biggest challenge in any new technology is getting the consumer to change their behaviour.”

Derek is convinced that the heating remote control will be ubiquitous in 10 years’ time. “We get a lot of feedback from customers saying, ‘I don’t know whether I’d use a remote control for my heating’. It’s the same feedback the inventor of the TV remote



Derek Roddy, Chief Executive Officer Climote

control would have received. However, once you give someone a remote control and they use it, they can never do without it.

At the moment Climote has one main competitor, a US company called Nest, which was set up by Tony Fadell, the designer of Apple's iPod and iPhone products. "They launched in the US about three years ago and are talking about launching officially in Europe shortly", says Derek.

Nest effectively re-defined thermostatic controls with the introduction of the Nest Learning Thermostat, which learns the temperature preferences of its users.

Within a couple of years of launch Google bought Nest for a staggering €3.2 billion, having attempted (and failed) several times in the past to gain access to "connected home" type systems, including its own energy monitoring service. Climote Hub is in good company!

“Once you give someone a remote control and they use it, they can never do without it.”

Climote Hub was officially launched at the Energy Show 2012 in the RDS, where it won three awards, including Best Product of Show Award, Best Innovative Product Award and Best Controls Product Award. A couple of weeks before that, the Climote smartphone app was a runner-up in the global final of the Appy Awards in San Francisco.

"Currently we're going toe to toe with the guys in Silicon Valley", says Derek, "but we're the ones winning the contracts with Electric Ireland, PowerNI in the North and Scottish Power, which is a subsidiary of one of the largest utilities in Europe. They have five million customers in the UK and 30 million in Europe. This is a huge achievement for us."

Electric Ireland is currently selling the system outright for €299, including installation, or for €14.50 a month over two years. The average saving in the trial home installations was €150 a year for a gas customer and up to €300 a year for an oil customer. Climote also sells directly on its web shop and through energy installation companies and builders.

"However", says Derek, "our main deployment plan is through the partnership with utilities, because they have the customer

accounts and they've also got targets to help reduce energy.

"For us it's hugely significant to be up against guys like Nest and other established market-leading brands such as Honeywell, and Siemens. It's early days to know what the conversion rate will be through the utilities, but they have significant reduction targets to hit under EU legislation. They have to promote energy saving products to their customers or they'll be fined. We feel that we are probably the best return on investment for a utility to hit these targets".

Further afield, Climote's first trial units have been shipped to Dubai. "We invented the product to help people make sure they're nice and warm when they arrive home," says Roddy. "In Dubai, we're hopefully doing the opposite." While the company has plans to expand still further on the international markets, the main focus for the moment is on its existing customers.

Climote is Dundalk based and has 12 people employed full time, with a further 12 providing outsourced services. All products are designed and engineered in Dundalk and then assembled in China. The team is growing rapidly and the plan is to use the next round of investment to scale that up to double and treble that over the next number of years.

Further products are currently in development. Derek says: "The Climote system is a 'gateway product'. Once installed we have the ability to remotely access the home, we have a connection with the property. We are now developing products and services that will tie in to this. I can't give too many details at this stage but suffice to say that we're now looking at what other real problems consumers have with their energy, and with other services, that we can solve through really simple-to-use solutions.

"We know where to go next and we know where not to go next. We won't be making mistakes because we have 10 years of experience in the home automation sector and we know it inside out. We won't be going off on mad tangents to try to solve geeks' problems. We'll be finding solutions for real customers who have real problems", says Derek."

"Something like €40 billion is spent each year on heating homes and hot water in Ireland and the UK alone. Our objective is to ensure that Climote is managing as much of that spend that we can get our hands on. We see it as a huge opportunity to help people manage their heating spend better", concludes Derek. ■



Eamon Conway, Managing Director and Derek Roddy, CEO Climote with the Product of the Future Award at the Energy Show 2014.

COVER STORY

The end may be in sight for fossil fuels as science makes solar power cheap



Solar power has won the global argument. Photovoltaic energy is already so cheap that it competes with oil, diesel and liquefied natural gas in much of Asia without subsidies, writes Ambrose Evans Pritchard, *The Daily Telegraph*.



“If the hypothesis is broadly correct, solar will slowly squeeze the revenues of petro-rentier regimes in Russia, Venezuela and Saudi Arabia, among others.”

About 29% of electricity capacity added in America last year came from solar power, rising to 100% in Massachusetts. "More solar has been installed in the US in the last 18 months than in 30 years," says the US Solar Energy Industries Association. California's subsidy pot is drying up but new solar has hardly missed a beat.

The technology is improving so fast – helped by the US military – that it has achieved a virtuous circle.

Michael Parker and Flora Chang at researchers Sanford Bernstein say we are entering a new order of "global energy deflation" that must inevitably erode the viability of fossil fuel over time.

The deflation ratchet may be imperceptible at first, since solar makes up just 0.17% of the world's \$5 trillion (€3.65 trillion) energy market. The trend does not preclude cyclical oil booms along the way, nor does it obviate the need for shale fracking as a stop-gap (in Britain's case to curb a current account deficit of 5.4% of GDP). But the technology momentum goes only one way.

"Eventually solar will become so large that there will be consequences everywhere", Parker and Chang say. This remarkable overthrow of everything we take for granted in world energy politics may occur within "the better part of a decade."

If the hypothesis is broadly correct, solar will slowly squeeze the revenues of rentier regimes in Russia, Venezuela and Saudi Arabia, among others. Many already need oil prices near \$100 a barrel to cover welfare budgets. They will have to find a new business model.

The Saudis are themselves betting on solar, investing more than \$100bn in 41GW of capacity, enough to cover 30% of their power needs by 2030. That will mean more crude – other things being equal – washing into a deflating global energy market.

Clean Energy Trends says new solar installations overtook wind worldwide last year, with an extra 36.5 gigawatts. China accounted for a third. Wind is still ahead with 2.5 times old capacity but the "solar sorpasso" will be reached in 2021 as photovoltaic costs keep falling.

The US National Renewable Energy

Laboratory says scientists can now capture 31.1% of the sun's energy with a 111V solar cell, the latest world record. This will find its way briskly into routine use. Wind cannot keep pace. It is static by comparison.

A McKinsey study said the average cost of installed solar power in the US has dropped to \$2.59 from \$6 a watt in 2010. It expects this to fall to \$2.30 next year and to \$1.60 by 2020. This will put US solar within "striking distance" of coal and gas.

It is hard to keep up with the cascade of new research papers, so many brimming with optimism. The University of Buffalo has developed a nanoscale microchip able to capture a "rainbow" of wavelengths and absorb far more light. An Oxford team is pioneering use of perovskite, an abundant material that is cheaper than silicon and produces 40mc more voltage.

One by one, the seemingly intractable obstacles are being conquered. Israel's Ecoppia has just begun using robots to clean the panels of its Ketura Sun park in the Negev desert without the use of water. It is beautifully simple. Soft microfibers sweep away 99% of the dust each night with the help of airflows.

Prof Michael Aziz at Harvard University is developing a flow-battery that promises to cut the cost of energy storage by two-thirds below the latest vanadium batteries. He said technology gives us a "fighting chance" to overcome the curse of intermittency from wind and solar power, which spike and die in bursts. "I foresee a future where we can vastly cut down on fossil fuel use."

Even thermal solar is coming of age, driven for now by use of molten salts to store heat. California opened the world's biggest solar thermal park in February in the Mojave desert – the Ivanpah project, co-owned by Google – able to produce power for 100,000 homes by reflecting sunlight from 170,000 mirrors on to boilers that generate electricity from steam. Ivanpah still relies on subsidies but a new SunPower project in Chile will go naked, selling into the spot market.

Deutsche Bank says there are already 19 regional markets around the world that have achieved "grid parity", meaning that photovoltaic solar panels can match or undercut local electricity prices without

subsidy: California, Chile, Australia, Turkey, Israel, Germany, Japan, Italy, Spain and Greece for residential power; Mexico and China for industrial power.

This will spread as battery storage costs keep dropping, a spin-off from electric car ventures. Sanford Bernstein's report says it may not be long before home energy storage is cheap enough to lure households away from the grid *en masse* across the world, spelling "disaster" for some utilities.

Solar competes directly. Each year it supplies a bigger chunk of peak power needs in the middle of the day, when air conditioners and factories are both at full throttle. "Demand during what was one of the most profitable times of the day disappears," the report says.

Michael Liebreich from Bloomberg New Energy Finance says we can already discern the moment of "peak fossil fuels" around 2030, the tipping point when the world starts using less coal, oil and gas in absolute terms.

This is a remarkable twist of history.

Six years ago we faced an oil shock with crude trading at \$148. The rise of "Chindia" and the sudden inclusion of two billion consumers into the world economy seemed to be taxing resources to breaking point.

For Germany it is a bitter-sweet vindication. The country sank €100 billion into feed-in tariffs or in solar companies that blazed the trail, did us all a favour and went bankrupt. They have the world's biggest solar infrastructure but latecomers get it much cheaper.

For Britain it offers hope of reprieve after 20 years of energy drift, yet also raises a quandry: should the country lock into more nuclear power with strike-prices fixed for 35 years? Should it spend £100 billion on off-shore wind when imported LNG might well be cheaper in the future? For the world, it portends a once-in-a-century upset of the geostrategic order.

Sheikh Yamani, the veteran Saudi oil minister, saw the writing on the wall long ago. "Thirty years from now there will be a huge amount of oil – and no buyers. The Stone Age came to an end, not because we had a lack of stones," he told The *Daily Telegraph* in 2000.

Wise old owl. ■

Building Control (Amendment) Regulations 2014

WHO'S CERTIFYING WHAT?

The Building Control (Amendment) Regulations 2014 (the "Regulations") became operative on 1 March 2014. This article aims to give a brief snapshot of the various new roles introduced by the Regulations and explores the part that all individuals involved in a project will need to play, including building services engineers, in ensuring the Regulations are fully complied with, writes *Mary Liz Mahony, Associate, Construction & Engineering, Arthur Cox.*

**The New Certificates**

The Regulations introduce three new types of mandatory certificates, in prescribed form, as follows – (a) Certificate of Compliance (Design) (the "Design Certificate"); (b) Certificate of Compliance (Undertaking by Assigned Certifier)/Certificate of Compliance (Undertaking by Builder) (together, the "Undertakings"); and (c) Certificate of Compliance on Completion (the "Completion Certificate").

While each of these certificates are pivotal to successfully complying with the Regulations, there is much more to these certificates than initially meets the eye. An understanding of the Regulations is necessary for all parties involved in the construction project (from start to finish) as even if a party does not intend adding their name to these "main" certificates, all parties will have a role in ensuring that the certificates can be signed, and that the works can be opened, occupied and used at the end of a project, without delay.

The New Roles***The Design Certifier/Ancillary Certifiers (Design)***

Prior to the works commencing, the design of the works must be certified as complying with Building Regulations by the execution of the Design Certificate by the "Design Certifier" who must be a chartered engineer, registered architect or building surveyor. In general, it would be expected that the lead designer would take this role. The Design Certificate essentially confirms that the design is in accordance with Building Regulations. For the purposes of providing this certificate, the certificate expressly states that the Design Certifier is relying on "ancillary certificates".

The reference to "ancillary certificates" is notable, and reflects the fact that, owing to the different design disciplines that may have input into the overall design of a building, one building designer could not stand over the entire design without relying on others. While details in respect of the role of the ancillary certifier are absent from the main body of the Regulations, further guidance is contained in the Code of Practice published by the Department of the Environment which complements the Regulations.

The Code of Practice states that a designer should, where required, provide an ancillary certificate to the Design Certifier. This could encompass any person (or company) involved in even a small aspect of design work. Recognising this fact, the Code of Practice states that while an Ancillary Certifier must be "competent", it could include many roles such as designers of piling, mechanical/electrical work, soil and waste pipework and designers of precast concrete elements.

The Assigned Certifier

The building owner must also appoint an Assigned Certifier who must also be a chartered engineer, registered architect or building surveyor. It will be the responsibility of the Assigned Certifier to monitor and inspect the works



Above all, a party should never sign any form of certificate that they cannot stand over.

for compliance with Building Regulations and the Assigned Certifier will formally undertake to execute Part B of the Completion Certificate to say that this has been done. The role of Assigned Certifier is significant and the Assigned Certifier is involved in the project from the very beginning. For example, the Assigned Certifier will need to prepare a preliminary inspection plan for submission with the Commencement Notice.

Part B of the Completion Certificate requires confirmation that the inspection plan has been undertaken *"by the under-signed having exercised reasonable skill, care and diligence, and by others nominated therein, as appropriate, on the basis that all have*

exercised reasonable skill, care and diligence in certifying their work in the ancillary certificates scheduled".

Again, there is a clear reference to reliance on ancillary certificates and many parties involved in the works (including for example, subcontractors, testers and installers) may be called upon by the Assigned Certifier to play a role in monitoring and inspecting elements of the works, and providing an ancillary certificate to that effect.

The Builder

The builder will also be required to provide an undertaking, submitted with the Commencement Notice, identifying the works which he has been commissioned to undertake and confirming his own competence and those employed and engaged by him, to undertake such works. Further, the builder must also undertake to cooperate with the inspections set out in the inspection plan prepared by the Assigned Certifier.

At the end of the project, the builder must also execute Part A of the Completion Certificate certifying that, having exercised reasonable skill, care and diligence, the works as completed have been constructed in accordance with the design documents submitted and reliant on this, the works are in compliance with Building Regulations.

In executing his part of the Completion Certificate – and depending on the project – the builder is unlikely to be able to stand over all aspects of the construction process and the Code of Practice sets out examples of ancillary certifiers who might be appointed by the builder. For example, a builder is likely to require certificates from parties such as subcontractors, installers, testers, suppliers and manufacturers.

Completion

The Regulations state that works or buildings cannot be "opened, occupied or used" until the relevant particulars of the Completion Certificate are entered on the statutory register to be kept by the Building Control Authority. As such, parties will need to be aware from the outset what will be required of them during the works so there is no delay in handing over certificates and submitting the Completion Certificate. It is likely that there will be strict contractual provisions dealing with this to minimise the risk of significant delays.

Insurance Implications

Providing any form of certificate – whether it is the Design Certificate or an ancillary certificate standing over a very small element of the design – will undoubtedly have knock-on effects on the requirements to have professional indemnity insurance. Parties should speak to their insurance advisors before issuing any form of certificate. While the Design Certificate and the Completion Certificate are in prescribed form and cannot be amended, it is not clear what an ancillary certificate might contain. However, it is to be expected that anyone signing a "main" certificate will require that the ancillary certificates sitting beneath them will be on "back-to-back" terms.

Conclusion

The entire purpose of the Regulations is to ensure that future buildings comply with Building Regulations. Those intending to act as certifiers (including ancillary certifiers) or builders must consider how these roles need to be carried out to ensure a smooth design and construction process that is flexible enough to adapt to changes during the life of a project, but one that follows the Code of Practice and allows the Completion Certificate to be signed in confidence.

Regardless of the role taken, parties need to ensure that they understand the obligations arising out of the Regulations. Above all, a party should never sign any form of certificate that they cannot stand over. ■



BTU re-enacts Battle of Clontarf

The first BTU golf outing of the season took place at St Anne's Golf Club in April with Muller Europe as the main sponsor. The golfing gods provided a beautiful sunny day, a slight breeze being the only challenge, apart of course from the other golfers.

The course was in magnificent condition and the general environs of St Anne's proved a bit hit with all 38 golfers who took part. Who knows? ... Brian Boru himself may have walked these lands 1000 years ago on his way to do battle in Clontarf!

Sponsors Muller Europe had organised a wonderful array of prizes with Connor Lennon in attendance to make the actual presentations.

Overall winner

Padraig Gillen, 36 Pts.

Class 1

First: John Lavelle, 33pts;

Second: Martin Keogh, 33pts.

Class 2

First: John Larkin, 35 Pts;

Second: Eamon Vickers, 32 pts.

Class 3

First: Garvan Evans, 34pts;

Second: Des Bindley, 32 pts.

Front 9: Bernard Sweeney, 18 pts.

Back 9: John White, 19 pts.

Malahide outing

Another fine day greeted the BTU Golf Society at Malahide Golf Club for the May outing. Forty members and guests participated in this special two-person team event with Padraig Gillen of TIDL, the main sponsor, presenting some excellent prizes.

Overall winners

Brendan Coghlan and Joe Warren, 47 pts (back 9);

Second

Padraig Gillen and Sean Gillen, 47 pts;

Third

Des Haughton and Jim King, 42 Pts.

Front 9: Gerry Tobin and Cian Tobin.

Back 9: Gerry Hutch and Tom Glynn.

BTU GOLF NEWS



Malahide winners: Joe Warren and Brendan Coghlan (centre) with Padraig and Cian Gillen from sponsors TIDL.



Malahide Third: Des Houghton and Jim King (centre) with Padraig and Cian Gillen from sponsors TIDL.



Malahide Back 9: Tom Glynn and Gerry Hutch (centre) with Padraig and Cian Gillen from sponsors TIDL.

Spotlight on our bestsellers



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- Energy saving trust recommended



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